



# UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/521,191

01/12/2005

Takashi Yokokawa

09812.0201

8642

22852

7590

10/06/2006

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP

901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

RIZK, SAMIR WADIE

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/521,191

Applicant(s)

YOKOKAWA ET AL.

Examiner

Sam Rizk

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 7/17/2006.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

- Response to the applicant's amendment dated 7/17/2006
- Amended claims 1-20 have been submitted for examination
- Amended claims 1-20 have been rejected

#### ***Specification***

1. In view of the applicant-amended title, filed on 7/17/2006 all objections to the specification are withdrawn.

#### ***Drawings Objections***

2. In view of the applicant amended drawing, figures 1-8, filed on 1/30/2006, all objections to the drawings are withdrawn.

#### ***Claim Rejections - 35 USC § 101***

3. In view of the applicant-amended claim 20 filed on 7/17/2006 all objections to the claim 20 rejections under section 35 USC § 101 are withdrawn.

#### ***Claim Rejections - 35 USC § 112***

4. In view of the applicant-amended claim 12 filed on 7/17/2006 all objections to the claim 12 rejections under section 35 USC § 112 are withdrawn.

#### ***Response to Arguments***

5. Applicant's arguments, see pages 12-15, filed on 7/17 2006 have been fully considered but they are not persuasive.
6. In regard to claim 1, the examiner disagree with the applicant argument in page 13, line19-21 that Richardson Richardson teaching:

"Substituting the particular permutation matrix for an identity matrix does not constitute the claimed "performing at least one of a row permutation and a column permutation on an original check matrix. Richardson, therefore, fails to teach or suggest a decoding method that, for example, "obtain[s] a transformation check matrix by performing at least one of a row permutation and a column permutation on an original check matrix," as recited in amended independent claim 1."

The Examiner notes that it's well known in the linear mathematics algebra that the definition of Permutation Matrix is any matrix, which can be created by rearranging (permuting) the rows and/or columns of an identity matrix.

Copies of three (3) different sources that teach permutation matrix generation are attached with this office action:

- a. <http://planetmath.org/encyclopedia/permutationmatrix.html>
- b. [http://en.wikipedia.org/wiki/permutation\\_matrix](http://en.wikipedia.org/wiki/permutation_matrix)
- c. <http://mathworld.wolfram.com/permutationmatrix.html>

7. In regard to claim 6, the Examiner disagree with the applicant argument in page 14 that:

"Richardson fails to Richardson fails to disclose a decoding apparatus

Including, for example, "check node calculation means for simultaneously performing p check node computations" and "variable node calculation means for simultaneously performing p variable node computations," as recited in claim 6."

Art Unit: 2133

Actually Richardson teaches in col. 11, lines 13-16 that C/V decoder processing operation, to be performed in parallel:

"Since the decoding techniques of the present invention allow for a large number of decoding operations, e.g., constraint and/or variable node decoder processing operations, to be performed in parallel, the decoders of the present invention can be used to decode received words at high speeds."

The Examiner notes the parallel processing of C/V node computations as disclosed in Richardson <sup>The</sup> is same as in claim 6 disclosure of simultaneous ^ processing of C/V node computation.

8. The Examiner maintains the rejection of claims 1-20 under section 35 USC §102(b) as being anticipated by Richardson as in the office action filed on 4/17/2006.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

Art Unit: 2133

the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571)-272-8191. The examiner can normally be reached on M-F 8-5.

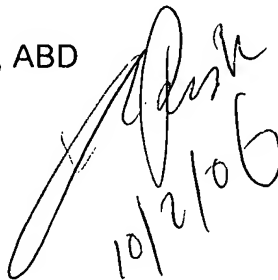
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571)272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

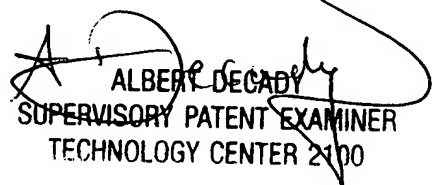
Sam Rizk, MSEE, ABD

Examiner

ART UNIT 2133



10/2/06



ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100